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TAG-72 SPECIFIC CH2 DOMAIN DELETED
~~ENGINEERED TETRAVALENT ANTIBODIES~~
~~AND METHODS OF USE~~ ANTIBODIES

Cross Reference to Related Applications:

5 This application claims priority of to U.S. Provisional Application No. 60/341,858 filed December 21, 2001, which is a continuation-in-part of U.S. Provisional Application No. 60/264,318 filed January 29, 2001, and claims priority to U.S. Provisional Application No. 60/331,481 filed November 16, 2001 each of which is incorporated in its entirety herein by reference.

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Field of the Invention:

In a broad aspect the present invention generally relates to a novel process for the preparation of biologically active antibody dimers and pharmaceutically acceptable compositions containing such dimers. These dimers may comprise two antibody molecules (IgG) having the same antigen binding specificity (homodimers) or, alternatively, may comprise two different antibody molecules having binding specificity for two distinct antigens (heterodimers). The subject antibody dimers demonstrate improved binding characteristics over their monomeric counterparts and are useful for inducing hyper-cross-linking of membrane antigens. The present invention further relates to the use of biologically active antibody dimers for the preferential killing or inhibition of selected cell populations in the treatment of diseases such as cancer and immune disorders.

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Background of the Invention:

Monoclonal antibodies were once thought to be an ideal way to target malignant tissues, by delivering a killing agent, while leaving healthy tissue intact. However, their clinical potential is often limited due to the need to covalently couple the killing agent to the monoclonal antibody. Thus, in an effort to alleviate such limitations, bispecific antibodies were developed, which remain bivalent, but are specific for a target cell on one arm of the antibody and a killing agent on the other arm. The killing agent can be a toxin, a drug, a chelated radioisotope, or, more preferably, a cytotoxic effector cell.

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